

JPRS-UHR-84-005

27 March 1984

# USSR Report

HUMAN RESOURCES

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27 March 1984

## USSR REPORT HUMAN RESOURCES

### CONTENTS

#### EDUCATION

Estonian Education Minister Reviews Current Needs (I. Nuut; KOMMUNIST ESTONII, No 9, Sep 83) .....	1
Planned Upgrading of Management Skills Proposed (N. Lapshin, V. Barinov; PLANOVOYE KHOZYAYSTVO, No 11, Nov 83) .....	10

#### DEMOGRAPHY

Moscow's Experience in Human Resources Management Detailed (A. Dadashev, S. Sokolov; PLANOVOYE KHOZYAYSTVO, No 11, Nov 83) .....	14
Statistical Examination of USSR Birthrate, Distribution (V. Belova, L. Darskiy; VESTNIK STATISTIKI, No 12, Dec 83)	24

#### GENERAL

Control Over Financial Operations of Socio-Cultural Institutions Detailed (V. G. Ivanova; FINANSY SSSR, No 11, Nov 83) .....	39
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## EDUCATION

### ESTONIAN EDUCATION MINISTER REVIEWS CURRENT NEEDS

Tallinn KOMMUNIST ESTONII in Russian No 9, Sep 83 pp 37-42

[Article by I. Nuut, EsSSR minister of Higher and Secondary Specialized Education: "Training Specialists: Problems and Tasks"]

[Text] Regardless of the complexity and urgency of the problems being solved by our society during this or any other period of its development, the main thing at any stage of building communism, but particularly at the stage of improving developed socialism, is the striving for the highest possible labor productivity, the education of persons to have a new attitude toward labor and consumption. These goals are strategic in the educational system and in training specialists, whose role and responsibility in ensuring a high degree of labor productivity, product quality, zealous management, as well as strengthening labor, production, and technological discipline are difficult to overestimate.

In our republic now one out of every four or five working people has a higher or a secondary specialized education. But it is completely obvious that in the age of the scientific and technical revolution the need for specialists will not be confined within these limits. The society needs more and more highly skilled experts in their own fields. When discussing specialists, we have in mind not merely engineering and technical personnel. As is known, specialists are necessary in all walks of life. Their role in culture and education must be particularly emphasized; here they come into the most direct contact with the education of the new human being. Nor must we omit mention of the decisive role played by the specialist in science. Certainly all those who are engaged in scientific work today were graduated from a VUZ at one time or another. And, of course, achievements in science constitute the meritorious service not only of academicians and doctors of sciences but also the great army of engineers, designers, technologists, and laboratory workers.

The seriousness and responsibility of the tasks assigned to specialists has been further conditioned by the increase in international tension. The opposition between the two polarized social systems also affects science, technology, and culture. On the one hand, a natural and inevitable exchange of scientific and technical achievements and experience is taking place, while, on the other hand, reactionary circles within the imperialist powers, by curtailing cooperation with the socialist countries in the field of science and technology, are hoping thereby to retard their development. Under these circumstances an increase in the creative contribution made by our specialists, above all, to the development and mastery of new, effective technologies, is

of enormous importance. The society likewise expects a great deal from them in the solution of social and cultural problems. The anti-communist propaganda centers of the West are also undertaking colossal efforts to restrain the activity of our technical and creative intelligentsia. It is natural, therefore, that we accord exceptional attention to the formation of a communist world view in our specialists. At the June (1983) Plenum of the CPSU Central Committee this question was sharply posed anew.

What should a Soviet specialist be like in order to successfully cope with the present-day and future tasks imposed upon him?

The basic requirements sought in today's specialist have been precisely formulated in party documents. Above all, he must know his own field of specialization in all its fine points, be up to date on the most recent achievements in this field, and capable of making practical use of his knowledge; he must also know how to work fruitfully. Regardless of his own profession, he must master the Marxist-Leninist methodology, be able to analyze the principles of social development, and be well-oriented in our domestic and foreign policies. The state is justified in anticipating from him a genuinely creative and active utilization of the knowledge acquired by him for the good of the socialist society and for the successful solution of the problems confronting it.

Such, in general outlines, is the model of the present-day specialist.

If we were to evaluate the status of training specialists on the whole, then we would have to say that our society's needs for them are basically being satisfied. The country has approximately 900 VUZ's and 4,400 secondary specialized educational institutions, in which more than 10 million persons are enrolled. Every year more than 2 million graduates in approximately 450 specialized fields pour into the national economy, the sphere of culture, and education. Their training is at the level necessary to furnish a supply of educational-indoctrinational workers as well as professors and instructors. About half of the country's doctors and candidates of sciences are employed at VUZ's.

In our republic too the training of specialists is proceeding successfully. More than 50,000 young fellows and girls are studying at 6 VUZ's and 37 secondary specialized educational institutions. Furthermore, approximately 500 persons are acquiring a specialized education at the best educational institutions of the other Union republics. The staffs of our specialists every year add 9,000 skilled employees. The material base of the higher and secondary specialized educational institutions have been significantly strengthened. The qualifications of the scholars at our VUZ's are constantly being raised, and their contribution to the development of the national economy and culture is constantly increasing.

I would like to dwell further on certain problems in the training of specialists, the solution of which cannot be delayed. One of them is improving the planning of specialist training and the formation of the student body at higher and secondary specialized educational institutions.

While the society was experiencing a shortage of specialists, the lack of balance in planning their training was not especially felt. Specialists in any field were in short supply to one degree or another, and, therefore, all the graduates of VUZ's and tekhnikums without exception found employment. Now the situation has changed. For many sectors we are training exactly as many specialists as are needed. In the new, rapidly developing fields of knowledge more of them are usually required than we can manage to train. But in certain fields the supply has already exceeded the demand (in some specialized areas of philology and the arts). Nevertheless, even with precise planning, we cannot manage to fill all the vacancies. Along with exceptionally intense competition in certain occupations (art, commodity management), the plan for student admissions frequently remains unfulfilled in such important disciplines as mathematics and machine building. Planning training is likewise made difficult by the subsequent large drop-out rate of those accepted at VUZ's as well as at secondary specialized educational institutions, particularly among those studying the technical sciences.

Another factor which complicates planning is the insufficient occupational stability of certain categories of specialists (educators, physical-education specialists, nurses). If, for example, each of our teachers were to work in a school for an average of 30 years, we would have to train approximately 400 educators a year. But at present the Tartu State University and the Tallinn Pedagogical Institute together graduate 800 young teachers per year, yet this does not satisfy the actual needs of the schools. Consequently, teachers are employed in their fields of specialization for much less than 30 years.

"...In this connection, it would be useful to thoroughly analyze," Comrade K. Vayno noted at the 11th Plenum of the CP of Estonia Central Committee, "how the admittance of the future educators to higher educational institutions is being carried out, how their training is organized, whether everything is being done so that the VUZ's graduate genuine mentors of youth, well-trained with regard to their profession as well as in a political sense. It is thought that the ministries of education and higher education must pay the most serious attention to this."

If we add to what has been said the fact that under the conditions of the scientific and technical revolution the inter-sectorial proportions in the economy are changing continuously and rapidly, while the cycle of training specialists is prolonged and characterized by inertia, then the entire complexity of the planning problem shows through distinctly.

The most important question in training specialists is the question of what and how to teach. At first glance this may seem paradoxical. Because, of course, educational institutions, particularly those at the higher level, have age-old traditions and experience. Nevertheless, the problem of what and how to teach retains its urgency today as well, when, I repeat, science, technology, and culture are developing at a very rapid pace, and obsolescent traditions serve only as a brake.

What and how to teach is a global problem. From the colossal flood of information the most essential things must be selected, for within the framework of the time allocated to the educational process it is simply impossible to

master all the knowledge in a given field. Even when one manages to exclude all the secondary elements from the syllabi, the volume of mandatory material still remains so voluminous that it cannot be assimilated by the old methods. Hence the necessity for utilizing new methods of teaching and study. That is why so much is now being said about technical means of teaching and the application of computer technology in the education process. Solving the problem of what and how to teach also necessitates a frequent revision of curricula and syllabi. Difficulties also arise in the preparation of educational literature. What should we give preference to: a slapdash and frequently superficially compiled "up-to-date" textbook or a solidly written "stable" one, which, however, quickly becomes obsolete as a source of knowledge? Even such a classical subject as political economy requires periodical refinement of certain basic positions and the corresponding revision of syllabi and textbooks. There are still more rapid changes, moreover, profound ones, in the natural and technical sciences, for example, in biology and cybernetics.

Despite the difficulties, however, this problem must be solved. And mainly so that the educational material may be divided into a fundamental part, which can be assimilated in the lectures, and a supplementary part, which must be studied independently. It is becoming more and more obvious that the principal task of the school, especially the higher level schools, is to teach the future specialist how to think creatively and add to his own knowledge independently.

To a considerable extent, what has been said here also applies to indoctrinational work. Modern-day dynamic life requires new methods of indoctrination. Our society needs specialists who know not only Marxist-Leninist theory but also have the know-how to apply it in practice, who are capable of developing and adopting professional decisions, taking into account their social and indoctrinational consequences. Of particular importance here is implementing the party's position, which was formulated as follows by Comrade Yu. V. Andropov in his speech at the June Plenum of the CPSU Central Committee: "...the party is striving to bring about a situation whereby a person is educated in our country not simply as the bearer of a specific sum of knowledge but, above all, as a citizen of a socialist society, an active builder of communism, with its inherent ideological positions, morality and interests, along with high standards of labor and conduct."

How should we improve the planning of specialist training and solve the other problems confronting higher and secondary specialized education?

Perhaps we should begin with the fact that the VUZ's and secondary specialized educational institutions themselves should be more concerned with questions of planning the admission of students, questions to which, up to now, they have not paid much attention. The principal task of the schools in our system has been and remains fulfilling the admissions plans and organizing educational-indoctrinational work precisely. Planning admissions--both previously and now--is a matter for the planning organs. But, as practical experience has shown, the energetic participation of the educational institutions themselves is necessary in planning the training of specialists. Who, if not they, are to know where their graduates are expected and what kinds of employment they will find, where there is a shortage of specialists and where there is a

surplus of them. Hence, the competent participation of educational institutions in examining the draft plans for admissions can bring only benefits. And this does not at all impinge upon the rights of the planning organs, since the last word, one way or another remains theirs.

Planning the training of specialists is also of interest to the public at large. For example, the agenda recently included again the question of training psychologists, Latinists, and teachers of French and Greek. They are needed in our republic as well. It would seem to be not such a big matter--explain how many are required and how everything should be prepared in a more coordinated manner. It is thought that this problem could be solved completely if each department concerned would render aid to the best of its ability in both word and deed.

The role played by the higher and secondary specialized educational institutions in the formation of the student bodies is a great one. Of course, entrance into a VUZ or a tekhnikum is governed by regulations, and the deciding factors here are the results of the entrance exams, particularly the competitive ones. It is important, however, that the exams should be taken by precisely those young people who have the greatest prerequisites for continuing their education. No less important is the correct choice of a specialized field, a knowledge of the nature and principal characteristics of the future profession, and the requirements which they make upon a person. To provide information to the matriculants in good time concerning the possibilities of further study, the needs of the national economy and the cultural standards in the specialized fields--that is the duty of the educational institutions.

A well-known role in providing student enrollments at VUZ's is played by the preparatory divisions or, as the people call them, the "zero courses," which basically accept youths who have worked for a certain time in production or who have completed their period of service in the Soviet Army. Again we must direct to the preparatory divisions (and accept) the most worthy persons, those who have sufficient persistence and a great desire to obtain a higher education. And in enrollment for VUZ's and tekhnikums we must not underestimate the preparatory courses. Although they do not guarantee acceptance, they do assist in preparing students better for the entrance exams and at least provide convincing evidence of how much the young person is striving to become a specialist and whether or not he is suitable for this role.

A great deal of work is required from the VUZ's and tekhnikums in order to make the transition to the new (renewed) curricula and syllabi. The inevitability of their periodical revision has already been mentioned. Nevertheless, we must not forget that educational institutions are called upon to train specialists in the so-called "broad profile," possessing a profound knowledge primarily in the basic subjects and capable, consequently, of working in several, closely allied fields of specialization. The broad-profile specialist is not limited to any one, narrow field, but he must have the know-how to supplement his own knowledge and specialize in the field assigned to him at a given time. In short, while relying on his basic knowledge, he is obliged to continue studying on his own. These positions were reflected in the new curricula and syllabi. Particular attention has been accorded in them to the study of physics, biology, philosophy, and other fundamental disciplines.

In speaking about the training of specialists in the engineering, technical, and natural science fields (they constitute the lion's share of the total number of students), we must emphasize once again the importance of such a fundamental and universal subject as mathematics. The popularity of this basic discipline is declining, even though it is a well-known fact that present-day equipment and technology are based more and more on automation and cybernetics, and hence, on mathematics as well. We can draw the following conclusion from this: our leading VUZ's and tekhnikums must not only provide better grounding in mathematics for the students but also provide broader explanations of the importance of this subject to the young people in school.

Languages also belong to the fundamental and universal disciplines. Each language studied opens up a path to new knowledge and new experience; it broadens a person's horizon and spiritual world. We are speaking primarily about the world's leading languages, to which category the Russian language also belongs. In our multi-national country a fluent mastery of Russian is a requirement which is self-understandable. There is no need to prove that the qualifications of each of our specialists depend, to a large extent, on the degree of his knowledge of the Russian language, his capability of using it to acquire professional information and to communicate with colleagues of other nationalities. Therefore, our VUZ's and secondary specialized educational institutions must improve their Russian-language teaching.

The most important component in the process of training specialists is communist indoctrination, organically connected with educational work. Indoctrination of the future specialist with regard to world view is, naturally, engaged in by all teachers, but a particular role here belongs, of course, to the social scientists. In VUZ's and tekhnikums this process takes place under quite complex conditions. The persons studying there are adults or almost adults, whose views on life and attitude toward it have already been formed to a considerable extent. We do not begin, but rather continue, the indoctrination, and sometimes we are even compelled to fill in the gaps left by family and school upbringing. Furthermore, our indoctrinational process takes place, so to speak, under the fire of our ideological adversary. And so, the future specialist cannot be limited to the study of Marxist-Leninist science alone. Based on acquired knowledge, profound convictions must take shape, and the latter must be expressed in actions. In other words, the genuine specialist must have an inherent unity of knowledge, convictions, and actions.

On the whole, the VUZ's and secondary specialized educational institutions are successfully handling the indoctrinational tasks. Testimony to this is provided by the active participation by students in social life, in construction groups, in harvesting crops, in scientific and technical creative work, amateur artistic activity, tourism, sports, and a great many other things. Thus, the future specialists are receiving a good school of life. But this does not mean that in the future we can weaken our attention to indoctrinational work. On the contrary, the decisions of the June Plenum of the CPSU Central Committee oblige us to constantly improve it. Especially responsible tasks are assigned to the social scientists, from whom the party expects new research, new recommendations, directed at improving the quality of educational-indoctrinational work.

The activity of the system of higher and secondary specialized education is also to be evaluated by its end results. With what knowledge and skills does the young specialist arrive on the job, what kind of start does he make at the beginning of his working life, how does he fit into the group and become included in social work--these are the criteria by which one can judge the end results of the work of VUZ's and tekhnikums.

Sending young specialists to a job assignment occurs normally in principle, but here too there are particular problems. The overwhelming majority of graduates begin working where they are sent by assignment. Unfortunately, however, some of them refuse these jobs in their specialized fields or soon quit them. Such instances, naturally, contradict the principles of a planned economy; they disorganize the work of enterprises, institutions, and organizations, and cast a shadow on the educational institution. It is precisely the latter which is to blame for the failure of a young specialist to show up for work or for his quitting before three years have elapsed. In many cases the reprimands are justified: obviously, the educational institution has not, in fact, been able to inculcate in the young person a sense of duty and fidelity to his chosen profession, along with a sense of purpose.

However, the question also has another aspect. It would be unjust to blame the school alone for everything. The responsibility for a young specialist also is borne by the labor group to which he has been sent. It is no secret that sometimes young specialists are not provided with work in line with their qualifications and capabilities; they are used practically as errand-boys, and tekhnikum graduates are designated as ordinary workers. I am not talking about a situation whereby a certain working position, in fact, requires a tekhnikum education. At the present time this is no longer such a rarity. What we are talking about is that, at times, attempts are made to make up for the shortage of ordinary working hands by means of engineering and technical personnel. It even happens that engineers are appointed to a technician's position.

And far from the least important role is played by apartment and everyday living conditions. When, let's say, the directors of an enterprise show an indifferent attitude toward the living arrangements of the young specialists, this, of course, does not facilitate their retention in the group. And some even begin to look for all sorts of loopholes just to be released from the job. In short, the administration and social organization at a young specialist's first place of employment should manifest the maximum attention to him, bearing in mind that the beginning of labor activity is the most important event in a person's life. And, on the whole, I am bold enough to hope that the absolute majority of our young specialists are worthy of being called such.

It seems that the elimination of shortcomings in distribution and in occupational stability could be facilitated by earlier distribution assignments. By the way, it should be said that there is an appropriate decision on this matter by the directive organs. The gist of the latter is that the VUZ student or tekhnikum pupil should know long before graduation where he will be sent to work and what he will be doing. At present the distribution assignment is made a year (and sometimes even less) before the diploma is awarded. It would be more feasible to make the distribution assignment much earlier, when the students are beginning their specialization, i. e., two or three years prior to graduation.

Of course, early distribution assignments would entail additional troubles and more responsibility, and for this reason it has met with criticism on the part of sceptics. Without denying the problems connected with early distribution assignments, let me say that this innovation does have significant advantages. By knowing, for example, where he will begin working after completing his studies, the student will have a much more serious and responsible attitude toward his educational work. He will feel more confidence in himself, and he will have more "professional patriotism" than when his future was "misty," and his only goal was to obtain his diploma. Let me cite the following example: in higher and secondary specialized educational institutions there are quite a few students receiving stipends; they know as soon as their first year where they will be sent to work. And I must say that, as a rule, their success rate and discipline are at a good level.

Earlier distribution assignments will also compel the managers of enterprises in need of specialists to think through well ahead of time about their actual requirements as to specialized fields, where they can be used, and how to arrange their everyday living conditions. In the absence of a prospective plan for evaluating current requirements, one can, of course, make mistakes: a field of specialization which is in short supply today will not necessarily be in such demand tomorrow. Early distribution assignments, moreover, will allow us to more effectively organize the production practice of the future specialists, to coordinate their course and diploma work with the problems of the enterprise where they will begin working.

It is self-understood that the early distribution assignment is only preliminary, requiring refinements during the final year of study. Nevertheless, the measure being proposed will allow us to significantly strengthen the discipline of planning, training, and distributing specialists, and I am confident that the additional expenditures connected with it will pay for themselves many times over.

Serving as a guarantee of the precision and high degree of organization in this triple process is the close cooperation between the educational institutions and the principal enterprises and organizations for which the specialists are being trained. Cooperation of the educational institutions with them ought to be made a part of the system. The schools should know how their graduates are coping with labor duties, how they are adding to their knowledge, and what kinds of difficulties they are experiencing. VUZ's and tekhnikums are supposed to consult with enterprises and farms, to aid them in upgrading the qualifications of their staffs, and, in cases of necessity, with shock work, but without detriment to educational work. At the same time, the educational institutions have the right to count on the aid of enterprises and farms in strengthening the material base. Such ties already exist, but they should be improved and deepened.

Higher and secondary specialized educational institutions have been charged with responsible but also honorable duties. Most of them are comprehensive in their nature and require a scientific approach. Solving the scientific problems of training specialists is the responsibility primarily of the VUZ scholars; they have done quite a bit in this field, but they could do more. Without touching upon the entire question of a more complete utilization of the

VUZ's scientific potential, let me merely emphasize that we anticipate more specific and well-grounded suggestions from scholars concerning the improvement of planning specialist training, educational-indoctrinal work, and personnel distribution. All this is connected with the development of science in the higher schools.

In conclusion, I would like to state again the fact that the main burden in training specialists is borne by the professors and the instructors. In the first place, it is they who decide the question of what and how to teach. To be sure, we cannot underestimate the importance of the syllabi, the textbooks, the technical means, the scientific apparatus, and the material base in general. But the instructor remains the principal figure in the educational-indoctrinational process. Hence too the necessity for more concern about the staffs of professors and instructors, for greater attention to their training and qualifications.

In the last few years the CPSU Central Committee and the USSR Council of Ministers have adopted a number of fundamental documents concerning the development of higher and secondary specialized education. They are directed at improving the training of specialists, a more effective utilization of the scientific potential of the VUZ's, the staffs of professors and instructors, as well as strengthening the material base of the educational institutions. The intent of these documents boils down to one thing: increase the contribution made by the VUZ's and secondary specialized educational institutions to increasing the productivity of social labor and the indoctrination of the new person. I do not doubt that our educational institutions will do everything to carry out their noble duty with honor.

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## EDUCATION

### PLANNED UPGRADING OF MANAGEMENT SKILLS PROPOSED

Moscow PLANOVYE KHOZYAYSTVO in Russian No 11, Nov 83 pp 118-119

[Article by N. Lapshin and V. Barinov: "On Upgrading the Skills of Managers and Specialists"]

[Text] The intensification of the economy and the implementation of the comprehensive program for accelerating scientific and technical progress underline the importance of systematically upgrading the skills of managerial engineering and technical personnel, of increasing their political and professional knowledge and of enhancing their business acumen.

In accordance with the 13 October 1977 decree of the CPSU Central Committee and the USSR Council of Ministers "On the Further Improvement of the System for Upgrading the Skills of Managers and Specialists in the National Economy," USSR Minvuz [Ministry of Higher and Secondary Specialized Education], branch ministries and departments have engaged in a major effort to improve post-diploma education and have implemented a number of key measures designed to develop the state system for upgrading the skills of managers and specialists, the training of a management reserve and the retraining of management for new enterprises and production facilities.

At the present time, there are 76 advanced training institutes and over 130 of their affiliates; more than 500 advanced training courses; 203 advanced training institutes for physicians and teachers; and over 130 advanced training faculties at institutions of higher learning specializing in education, health care and agriculture in operation throughout the nation today. Their combined annual enrollment is approximately 2.5 million persons.

The problem of upgrading management skills in the system of educational institutions can be effectively resolved by improving current and long-range planning. The need for better planning in this area is determined by the greater need for post-diploma education that stems not only from the acceleration of the rate of branch scientific and technical progress, but also from the increasing differentiation of this need in the various branches and levels of management.

Since the system for upgrading skills is organized along departmental lines, the development and implementation of branch planning methods based on recommendations that are uniform for all branches should be considered

the basic direction for improving planning work. The introduction of such methods will make it possible to secure the requisite periodicity in upgrading the theoretical knowledge and professional qualifications of managers and specialists in the national economy, will promote interbranch and interdepartmental cooperation in this area, will balance the requirement to upgrade professional knowledge with the corresponding capacity of educational institutions in various branches of the national economy, and will also substantiate the economic feasibility of expanding the educational facilities of the different branches. Guidelines for planning the post-diploma training of managers are a matter of importance to all ministries whether their specialists are trained in their branch's system of educational institutions or in interbranch training centers.

An analysis by USSR Minvuz of the guidelines used by branches demonstrated a lack of unity in the approach to this question and brought a number of shortcomings to light. Among them: a non-integrated approach to the training process and to the trainee screening process. The guidelines are for the most part oriented toward the enrollment planning of a branch advanced training institute or its affiliates and interbranch facilities are not used for the same purpose. However, as a rule specialists in new areas of technology and in "management" can only be trained in educational institutions organized on an interdepartmental basis (both in institutes and in VUZ faculties). Since the plans cannot encompass all types of training of managers and specialists, the necessary systematicness in upgrading their skills and preparing a reserve for future promotion is not achieved:

--the number of indicators presently used in planning the post-diploma training of specialists is not sufficient for a precise calculation of the number of specialists that will have to upgrade their skills (or retrain) in order to cope with the problems confronting a given ministry (department);

--the lack of uniformity in the list of planned categories of managers and specialists in the national economy precludes the calculation of the requirement for retraining specialists in the various branches.

The practice of using branch guidelines for planning advanced training indicates the need to develop standard requirements regarding these guidelines taking the specific features of the various branches into account. Accordingly, USSR Minvuz has issued recommendations that were approved by the Interdepartmental Council on Upgrading the Skills of Managers and Specialists in the National Economy and were coordinated with USSR Gosplan.

The objective of these recommendations is to unify the forms and methods used in planning the advanced training of managers and specialists in various ministries and departments, taking into account the demands expressed in USSR Gosplan's Guidelines on Drafting State Plans for the Economic and Social Development of the USSR. The recommendations are standard in nature and should be made more specific when applied in a given branch.

[The Recommendations] state, in particular, that departmental advanced training plans must take into account the master plan for the development of a branch and the perspectives of scientific-technical and socioeconomic progress (scientific and technological advances and their incorporation in production).

In order to make departmental methods uniform, the Recommendations define the basic principles of planning, the forms and indicators of the plans and also indicate how to organize their development. Thus, the advanced training of managers and specialists should be understood to mean their training in branch and interbranch advanced training institutes and their affiliates; at advanced training faculties at VUZ's; in courses organized under the auspices of ministries and departments, scientific research and project-planning and design institutes; in higher and secondary specialized education institutions; in advanced training institutes and their affiliates formed in accordance with the 6 June 1967 decree of the USSR Council of Ministers "On Improving the System for Upgrading the Skills of Managers and Specialists in Industry, Construction, Transportation, Communications and Trade" and other government decrees.

Categories of personnel and of educational institutions are established by recommendations based on the classification of the USSR TsSU [Central Statistical Administration] (form 6 T). Moreover, advanced training for administrative personnel are classified separately. In addition to training in the position already occupied, the plans also include the separate target of training a manager replacement reserve and the target of training managers and specialists for newly built enterprises. The establishment of the indicated categories makes it possible to coordinate plan targets with statistics and with indicators of the plan for improving branch management, to control the training of specialists both for existing enterprises (through the reserve) and for enterprises under construction.

The total number of branch managers and specialists, the official categories of which correspond to the recommendations of the USSR TsSU, continues to be the basis for drafting the plan (as in the past). Nonetheless in addition to the age structure of persons attending VUZ's, technicums or graduate school on a part-time basis, the norm for upgrading skills and projected changes in the number of managers and specialists in connection with the construction of new facilities, the standard instructions call for taking the renewability [obnovlyayemost'] of managers and specialists into account.

The compilation of interconnected five-year and one-year plans is contemplated for the purpose of increasing the effectiveness of the planning process proper and for making the plans more reliable. Under existing branch methods, one-year plans only express the long-term plan in detail in intermediate stages. In the adopted standard recommendations, however, the one-year plan is regarded first and foremost as an instrument used in the operational management of the fulfillment of the five-year plan target for upgrading skills. Indicators of degrees of fulfillment of the five-year plan and of the contribution of the planned year to the fulfillment of the five-year plan target and official categories of managers and specialists have been introduced in the forms of one-year planning.

The uniformity of methods used to plan the advanced training of specialists for all branches of the national economy will permit the comparative analysis of the state of affairs in this area in various ministries and departments, improvements in the planning of the work with the reserve, in the specialized training of managers for enterprises under construction and improvements in the normative base of the post-diploma training of cadres.

At the present time, it is an important task to develop departmental methods for planning advanced training programs. They should express the general principles in detail from the standpoint of branch objectives and the objectives articulated in special interbranch programs (the introduction of microprocessor technology, the automation of design, robotics).

#### FOOTNOTE

1. "Tipovyye metodicheskiye rekomendatsii po planirovaniyu povysheniya kvalifikatsii rukovodyashchikh rabotnikov i spetsialistov" [Standard Recommendations for Planning the Advanced Training of Managers and Specialists], Moscow, 1983.

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CSO: 1828/40

## DEMOGRAPHY

### MOSCOW'S EXPERIENCE IN HUMAN RESOURCES MANAGEMENT DETAILED

Moscow PLANOVYE KHOZYAYSTVO in Russian No 11, Nov 83 pp 95-100

[Article by A. Dadashev, department head, Moscow IEP [expansion not given]; and S. Sokolov, chief, labor resources department, Mosgorplan [Moscow City Planning Commission: "Socioeconomic Problems in the Management of Labor Resources in a Large City (Methodological Problems and Moscow's Experience)"]

[Text] Large cities, which concentrate vast production, scientific-technical and sociocultural potential, play an increasingly important part in the system of planning of the nation's economic and social development. At the same time, their economic and social development, their place in the social division of labor and the magnitude of their contribution to the nation's economy depend to a considerable degree on the location of the productive forces, on the policy pursued by branch ministries and departments, and on the degree to which the latter take economic prerequisites and constraints on resources into account. The choice of ways of increasing the national economic effectiveness of a city's resources is conditional upon the rational combination of territorial and departmental interests. Regulation of the population growth of large cities involves the resolution of a complex of problems relating to the coordination of economic development with labor resources and to the restriction of their mechanical growth, which plays a significant part in the formation of the population of these cities.

The successful regulation of the growth of large cities depends in large measure on the action of the mechanism that controls the reproduction of the population and labor resources. It is based on the integrated planning of the development of cities, the socioeconomic essence of which consists in the close linkage between the economic and social aspects of development and branch (departmental) and territorial (local) interests and public interests. Indicators of reproduction of the population and labor resources find broader and broader application in the drafting of master and long-range plans. A leading place in the integrated planning of the city's economic and social development is assigned to the formation, distribution and utilization of labor resources.

Analysis of population growth of large and very large cities shows that its rate is relatively more rapid than the growth rate of the nation's urban population as a whole. The growth of cities with a population in excess of one million persons is particularly rapid: between 1959 and 1981, their population increased by 84 percent, compared with a 49 percent increase in the population of other cities (including a 56 percent increase in cities with a population in excess of 500,000 persons).

According to the 1959 population census, 25.5 million persons (25.5 percent [of the urban population] lived in cities with a population of 500,000 persons or more; at the beginning of 1982—55.5 million (32.3 percent), i. e., their population increased by more than 30 million persons or 2.2 fold. During the same period, the number of large cities increased from 24 to 48 and the number of cities with a population of one million or more increased from 3 to 22; at the beginning of 1982, they had a combined population of 38.6 million persons or 22.5 percent of the total urban population compared with 10.5 percent according to the 15 January 1959 census (Table 1).

Table 1. Growth of Cities With a Population in Excess of 500,000 Persons

Population	According to population census of 15 January				At beginning of 1982		1982 in % of	
	1959		1970		millions of persons	in % of urban population	1969	1970
	millions of persons	in % of urban population	millions of persons	in % of urban population				
Population--total	208.8	--	241.7	--	268.8	--	129.0	110.0
Of which, urban	100.0	100.0	136.0	100.0	171.7	100.0	172.0	126.0
No. of residents in cities with a population in excess of 500,000 persons.....	25.5	25.5	38.3	28.2	55.5	32.3	218.0	145.0
No. of residents in cities with a population in excess of 1 million persons...	10.5	10.5	21.0	13.4	38.6	22.5	368.0	184.0

Table 2. Grouping of cities With a Population of One Million or More Residents  
By Sources From Which The Population Forms

Categories	1981				
	Overall Increase		of which, mechanical increase		
	thous. of persons	in % of total	thous. of persons	in % of	
				overall increase	total
Cities with a population of 1 million or more residents--total.....	512	100.0	308	60.2	100
Of which:					
cities with predominantly mechanical increase (over 60%, Group I).....	302	59.0	225	74.5	73.0
cities with predominantly natural increase (over 60%, Group I).....	64	12.5	15	23.4	4.9
cities with an equal correlation of sources (from 40 to 60%, Group III).....	146	28.6	68	46.6	22.1

Analysis of the structure of the overall increase in the population of the 22 largest cities with a population of more than one million residents showed that according to the data for 1981, mechanical increase (as a result of the increased requirement of the national economy for additional manpower which exceeded the growth of local labor resources) constitutes more than 60 percent of the overall increase in population. In 12 of the cities (Group I cities with predominantly mechanical increase), this source accounted for roughly 75 percent (Table 2). Under these conditions, it becomes slightly more difficult to resolve the problem of raising the level of the population's social services.

The regulation of the growth of a large city and the substantiation of ways of its balanced economic development presuppose the need first of all to forecast the size of the population and the work force in the planned period and then to forecast employment in spheres and branches of the national economy based on the coordination of the goals and tasks of employment with the concept of the economic and social development of the city.

Two methods—the investigative method and the normative method—are used to forecast employment in various branches. The investigative method is based on extrapolation and correlation regression analysis that reflect in projections the inertia of existing demographic and economic processes in their interrelationship. The normative method is based on logical analysis and simulation which presupposes exerting an active influence on projections of the distribution of labor resources among various spheres of the national economy and in the absence of growth—on the scale of separation and interbranch redistribution of labor power. Coordination of the results of both methods is a necessary condition to the scientific elaboration of the branch structure of employment and the size of the work force in a large city. The branch structure is a normative element in forecasting and is a guidepost for planning agencies in their consideration of the manpower factor in forecasting a city's economic and social development.

The implementation of the policy of increasing the effectiveness of manpower utilization in the national economy and especially in branches of material production is the principal task that determines the content of the forecasting program in the face of a manpower shortage. Such an approach resolves problems of development in the production sphere not only without hiring additional manpower, but rather with a reduction in the work force as a result of the relatively more rapid growth of labor productivity and the formation of a progressive employment structure through the interbranch redistribution of labor resources.

The distribution of labor resources between spheres of social production—material and nonproductive—constitutes a key national economic proportion in the branch structure of employment. At the same time, it is essential to consider the need to develop progressive branches and production facilities in industry and science and the planned separation and redistribution of labor power from those historically formed branches and production facilities that do not correspond to the demands of optimization of the branch structure of employment.

The determination of quantitative parameters of employment in the city-forming sphere is preceded by the substantiation of potential size of the work force. What is more, according to the calculations, the absolute increase in work force size may be greater than the increase in labor resources during the forecast period. Therefore, the adopted projections require the coordination of the potential increase (separation) of labor power in this sphere with the forecast. Thus, notwithstanding the fact that the forecasting of work force size in various branches of social production begins with the city-servicing sphere [gradoobsluzhivayushchaya sfera], the final projections are simultaneously made with the successive approximation method (iterative method) with due regard to the volume of increase in manpower due to migration.

In the present stage, the effective control of a large city's labor resources is oriented toward attaining the necessary proportionality between the national economy's requirement for manpower (the aggregate of existing and new jobs) and labor resources based on the rational

combination of branch (departmental) and territorial (local) interests in the integrated planning system should in our opinion include: control of the manpower formation process, especially the regulation of the volume of the increased influx of the population due to migration; planning of the distribution of labor resources in various spheres of employment; and the planning of the use of labor resources employed in social production.

The phases of reproduction of labor resources are interconnected. The degree of increase in manpower due to migration depends on change (increases, decreases) in the size of local labor resources, their distribution among various spheres of employment, the increase in the national economy's manpower needs (inter alia for the needs of the city-forming branches and for the development of the city-servicing sphere); on the effectiveness of manpower utilization in branches of the national economy. Let us assume that the overall size of the work force is expected to stabilize in the planned period and that the projected increase in the number of persons of working age engaged [lit. employed] in full-time study will ceteris paribus lead to the lowering of the number of labor resources that are redistributed to the social production sphere. Consequently, for the sake of balance it will be necessary to hire labor resources from outside the city for the purpose of replacing manpower retired from the sphere of social production and of attaining the projected increase in the size of the work force in the national economy or for the purpose of reducing employment in the city-forming branches so that the maximum number of separated workers would be redistributed to the service sphere and would thereby reduce the dimensions of mechanical increase.

Perspectives of formation and distribution of labor resources find corresponding reflection in the planned consolidated balance of labor resources. It reflects the availability, structure and sources of manpower and makes it possible to determine maximum possible employment in social production, in the (full-time) educational sphere, and in the home. However the balance method only makes it possible to determine the overall size of the work force and to note the distribution of labor resources in various spheres of employment. Manpower ceilings, which should be established according to the departmental principle together with the distribution of the work force among various branches and basic types of activity, are an effective instrument in the specific address-type distribution of manpower. The ceilings simultaneously perform two functions: (1) limit the size of work force at enterprises and in organizations and, through them, in departments and branches; and (2) redistribute manpower between enterprises, organizations, departments and branches.

In practice, manpower ceilings are planned and determined as the average for the year broken down into quarters. In our view, such an approach is not responsive to the task of attaining and maintaining balance between the number that are working and the number of available manpower resources. The ceiling must not be exceeded in quarterly labor plans. Otherwise the total indicated in these plans may exceed the available manpower and may lead to a manpower shortage in the given period.

Given the absolute reduction in the size of the local able-bodied population, the balance method of planning and establishing manpower ceilings in a large city may not always provide the necessary proportionality in the development of the economy with respect to the labor potential. There is a need for a system of measures aimed at the (absolute, relative) separation of manpower and its planned intracity redistribution between enterprises, organizations and branches with due regard to their priority and significance in the integrated, economic and social development of a large city.

The program-goal method occupies an increasingly important place in securing proper proportionality both in the preplanning stage and in the drafting of the integrated plan for the economic and social development of a large city.

The broadening of the authority and coordinating functions of local Soviets of People's Deputies created an appropriate legal basis for intensifying planned influence on the integrated economic and social development of cities.

The practice of planned management of Moscow's labor resources--a practice that developed during the 10th Five-Year Plan--exerts a positive influence on increasing the effectiveness of the city's economy, on the creation of conditions for maximum proportionality in the development of the economy's labor potential. The system of planning and organizational measures designed to regulate the formation, distribution and utilization of labor resources is based on long-range, five-year and one-year plans for the economic and social development of Moscow, in which labor indicators occupy a central place. Labor resources are planned with due regard to the results of scientific research and forecasting calculations made with the aid of balance and program-goal methods.

The effectiveness of planning the distribution and utilization of labor resources in Moscow based on system of methods and manpower ceilings has been manifested in the effort to resolve the problem of restricting population growth and the attainment of maximum proportionality in the development of the economy with regard to the labor potential given the decline in the mechanical increase in population. The increase in the average annual size of the work force in Moscow's economy under the 9th Five-Year Plan was 9.1 percent; 8.5 under the last five-year plan; and only 0.9 percent in 1981-1982 (everything is reckoned in terms of the level for 1970). The mechanical increase in the city's population declined by 10,000 persons between the 9th and 10th Five-Year Plan and by 15,600 in 1981-1982.

Mosgorplan's experience in applying various forms and methods of exerting a planned influence on regulating population size, on forming and distributing labor resources promotes the improvement of the planning of Moscow's integrated economic and social development and accelerates the conversion of the city's economy to the intensive path of development. In our view, this experience is also useful for other large cities in the nation. It is based on the implementation of economic and organizational measures to strengthen the planned nature of the distribution and redistribution of manpower and to promote the development of special integrated programs.

The Special Integrated Program for Increasing the Effectiveness of Labor and for the Economical Utilization of Manpower in Moscow's Economy in 1981-1985 (TsKP "Trud") is one such program. The timeliness of such a program was determined by the action of objective (demographic and other) factors in the 1980's, that aggravated the capital's manpower problem. The program orients planning and economic activity toward the dynamic and balanced development of the Moscow economy's labor resources with regard to the significant increase in the productivity and effectiveness of labor in various branches of the national economy, the sharp reduction in the increase in the total number of workers and employees, and the planned redistribution of manpower between individual branches and departments.

The attainment of the end results of the integrated program requires the resolution of a number of specific branch questions that are distinguished by the character and scale of the tasks involved. The absolute separation of manpower in industry based on the acceleration of the rate of scientific and technical progress and the increased effectiveness of labor does not mean that it must be uniform in every association (enterprise, organization). Based on the specific features in the development of Moscow associations (enterprises), ministries and departments may at their discretion maneuver manpower within the ceiling set for them and for the city as a whole by the Executive Committee of the Moscow City Soviet.

A particular place in the special integrated program is assigned to the development and implementation of measures designed to curtail manual labor. Organizational-technical and socioeconomic measures for reducing the manpower requirement and for releasing manpower must first and foremost be directed to this end.

For the first time in planning practice, the organizational principles and methods used in the preparation of the TsKP "Trud" posed the target of securing the relatively more rapid growth of labor productivity compared with the growth of industrial output volume together with an absolute reduction in the size of the work force in industry; in science and science services, it set the target of increasing the volume of research work with a smaller work force.

Essentially, the work consisted in the following.

Balance calculations were used to determine 11th Five-Year Plan manpower ceilings for ministries and the ministries were informed of the ceilings in good time. These manpower ceilings in turn were used as the basis for setting manpower ceilings for specific enterprises and organizations. Every labor collective devised measures designed to ensure the fulfillment of 11th Five-Year Plan targets as a rule with a reduced work force.

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As a form of pre-plan work on labor indicators of the comprehensive plan for the economic and social development of Moscow in 1981-1985, TsKP "Trud" was supposed to encourage ministries and departments and their enterprises and organizations in the capital city to pursue a technical policy that would release manpower proceeding from the objective requirements and constraints associated with the formation of the work force. It provided a greater degree of substantiation for the draft comprehensive plan for the economic and social development of Moscow in 1981-1985 and also enabled ministries, departments and Mosgorispolkom [Moscow City Executive Committee] to explore in greater depth the question of using manpower more effectively in the face of the declining number of local labor resources and the lowering of the mechanical increase in population. Forms, methods and organizational principles in the program constituted the further development of planning and management activity aimed at combining departmental and local interests more closely.

After the most important indicators of the program—manpower ceilings, the labor productivity growth target and the target of curtailing manual labor—had been edited with the participation of ministries and departments, they became an integral part of the comprehensive plan for Moscow's economic and social development.

The program includes a system of labor-saving targets and indicators for the five-year plan: manpower ceilings, inter alia, in science and science services; labor productivity growth targets; manual labor curtailment targets; indicators of reduced personnel turnover; the reduction of lost working time and absenteeism due to illness; and the overall saving of labor as a result of the introduction of the complex of technical, organizational and socioeconomic measures.

The program sets Moscow industry's labor productivity growth target for 1981-1985 at the level of 113.4-115 percent; a lower limit was ratified as a plan target and an upper (more intensive) limit was ratified for use in one-year plans with due regard to their anticipated fulfillment and the fulfillment of socialist pledges.

The five-year plan calls for a 1.4 point increase in the rate of labor productivity compared with the growth of output, which should reduce the size of the work force in industrial production by 13,000 persons.

The program calls for saving the labor of approximately 300,000 persons, including approximately 175,000 in industry; at least 30,000 in science and science services; and 51,000 in branches of the service sector. Part of the calculated economy in industry and in science will be the source of the absolute reduction in the size of the work force.

Manpower ceilings that are raised at the expense of the basic branches of the city-forming base are redistributed to branches that are associated with increasing the production of especially scarce consumer goods, with the implementation of the Food Program, with the development of the city's engineering services and the sphere of social and consumer services.

As a result of the fulfillment of the program's targets, for the first time in the city's industry, labor productivity in 1981-1982 surpassed the level of labor productivity by 0.6 points (1.0 compared with 0.4 according to the plan). As a result, the labor of almost 55,000 persons was saved in industry (including an absolute reduction of the work force by more than 17,000 persons). The overall saving of labor in industry, construction, transport and communications during the 2 years was approximately 100,000 persons in industry, construction, transport and communications and over 40,000 in branches of the nonproductive sphere. The manpower ceiling in science and science services was lowered by more than 7700 persons; in design and design-surveying organizations--by 6600 persons compared with the ceiling ratified for 1982.

Mosgorplan and the Moscow IEP have drafted a plan of the basic directions and indicators of the special comprehensive program for increasing the effectiveness of the use of labor resources in Moscow's economy. They substantiate the concept of the city's economic development with regard to the labor potential in the face of an adverse demographic situation and the need to reduce the mechanical increase in population further, and analyze the present and future manpower situation, and proposals to increase the productivity and effectiveness of labor, to curtail manual labor, and to develop the vocational-technical training system.

The system of reciprocally coordinated balance calculations of labor resources and substantiations of the possible reduction of the mechanical increase of the city's population permitted the more exact determination of the anticipated increase in the size of the total work force. Since the magnitude of this increase did not satisfy the additional manpower required for the development of city-servicing branches, parameters were determined for curtailing employment in the city-forming branches in 1986-1990 at the level of USSR and RSFSR ministries and departments. Within the general limits of the manpower ceilings, separate manpower ceilings were established for science and science services, for design and design-surveying organizations and for industrial production with due regard to the relatively more rapid growth rate of labor productivity compared with the increase in output volume.

In order to secure a larger reduction in the mechanical growth of the city's population than specified in the program, it will be necessary to draft proposals on reducing the number of workplaces in the city-forming base (taking the increase in employment in the city-servicing sphere), on reducing the overall additional manpower requirement. Accordingly, the profile of the basic city-forming branches should be revised from the standpoint of the future development of scientific and technical progress and the optimization of the branch structure of employment and economic criteria should be determined for classifying enterprises, organizations and institutions among these branches. Even now a number of historically formed enterprises and organizations cannot be considered typical of the economy of very large cities. Therefore, in the face of the declining increase in the able-bodied population, some of their manpower should be used to develop progressive directions both in industry and in science.

In our view, draft master plans of development of large cities should define maximum employment for the calculated period for all enterprises and organizations of each ministry and department. These long-term ceilings should be of an address and mandatory character, i. e., should be strictly obligatory for every department.

It also seems advisable that the economic and social development of cities with a population of a million or more become an independent object of national economic planning, that (at the behest of union republic gosplans) the key indicators of their development be ratified on a separate line in the state plan of economic and social development and that manpower ceilings be ratified at the level of ministries and departments.

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## DEMOGRAPHY

### STATISTICAL EXAMINATION OF USSR BIRTHRATE, DISTRIBUTION

Moscow VESTNIK STATISTIKI in Russian No 12, Dec 83 pp 14-24

[Article by V. Belova, candidate in economic sciences, G. Bondarskaya, candidate in economic sciences, Scientific Research Institute of the USSR Central Statistical Administration, and L. Darskiy, candidate in economic sciences: "Birthrate Dynamics and Differentiation in the USSR (Based on Survey Materials)"]

[Text] The basic tasks of studying the birthrate at the present time presuppose above all a determination of its dynamics and differentiation. Special surveys are conducted in order to deepen the study of the processes which are taking place.

In the decree of the June (1983) Plenum of the CC CPSU<sup>1</sup> it is stated that "scientific research has to develop into practical recommendations and provide substantiated social forecasts." The birthrate surveys which are systematically conducted by the Demography Division of the Scientific Research Institute of the USSR Central Statistical Administration<sup>1</sup> have an applied scientific purpose. While they promote a deeper understanding of this important socio-demographic process, they at the same time represent the basis for forecasting birthrates.

The 1978 survey had 330,676 female respondents aged from 18 to 59. With the special purpose of studying birthrate, among others, each woman was asked the following questions: 1) how many children have you borne (excluding stillbirths); 2) the year of birth of each child; 3) how many children do you intend to have (this question was asked of married women aged from 18 to 44). There were also questions about age, the year of entry into a first marriage, the state of the marriage at the time of the survey, the husband's age, and certain other characteristics of the respondents.

The following indicators were taken for the analysis of birthrate: the average number of children born to a woman of a certain age or with a certain number of years in marriage, the proportion of women intending to have additional children among those who had already given birth, and also the average expected number of children.<sup>2</sup> For women over 45 the expected number of children was taken to be equal to the average number of already born child-

ren. For women younger than 45 the total number of expected children includes both those already born at the time of the survey and those which the woman, in her own words, intends to have before the end of her fertile age. This indicator is analogous to the total coefficient of the cohort birthrate at the end of the woman's fertile age. The indicator of the average expected number of children is used to study birthrate dynamics and differentiation and helps to determine its tendency in the near future.

Birthrate differentiation was studied both for demographic characteristics (age of the woman at the time of the survey, ages of the woman and her husband at the time of marriage, length of the marriage, the woman's family situation) and for social characteristics (type of settlement, size of urban settlements, educational level, nationality). Experience has shown that of the socio-economic characteristics which are accessible for measurement, it is these characteristics which at the present time are most significant in studying birthrate differentiation. Both the individual territories of the USSR (the union republics and the economic regions of the RSFSR and the Ukrainian SSR) and its basic socio-demographic groups are quite fully represented in the 1978 survey; it can be regarded as fully representative.

All of the birthrate indicators which were obtained from the survey data testify to the fact that the differences in birthrate levels by territories are very significant (Table 1). Thus, with married women aged 18-44 the average number of children indicator at the moment of the survey ranged from 1.61 in the Latvian SSR to 3.16 in the Turkmen SSR and the Tajik SSR. The differences in the indicators for the average number of expected children are even more substantial: the maximum (5.32 in the Tajik SSR) exceeds the minimum (2.02 in the Ukrainian SSR) by 2.6 times.

Table 1

Territorial Differentiation in USSR Birthrate

Territories	Average Number of Children Born to Married Women Aged 18-44 at the Time of Survey			Average Number of Children Expected by Married Women Aged 18-44		
	Total	In Urban Settlements	In Rural Localities	Total	In Urban Settlements	In Rural Localities
USSR	1.88	1.57	2.48	2.44	2.04	3.24
RSFSR	1.64	1.46	2.11	2.04	1.85	2.53
Economic Regions:						
Northwest	1.47	1.36	1.93	1.81	1.69	2.28
Central	1.37	1.29	1.81	1.73	1.65	2.12
Volgo-Vyatskiy	1.69	1.49	2.12	2.06	1.85	2.52
Central Black Earth	1.66	1.45	1.99	2.02	1.82	2.31
Povolzh'e	1.71	1.48	2.26	2.15	1.90	2.75
North Caucasian	1.82	1.58	2.19	2.28	2.03	2.64
Urals	1.71	1.58	2.16	2.10	1.95	2.63
West Siberian	1.72	1.56	2.05	2.10	1.93	2.45

(continued next page)

Territories	Average Number of Children Born to Married Women Aged 18-44 at the Time of Survey			Average Number of Children Expected by Married Women Aged 18-44		
	Total	In Urban Settlements	In Rural Localities	Total	In Urban Settlements	In Rural Localities
East Siberian	1.86	1.61	2.37	2.36	2.03	3.02
Far Eastern	1.73	1.58	2.18	2.13	1.98	2.54
Ukrainian SSR	1.63	1.47	1.99	2.02	1.89	2.34
Belorussian SSR	1.82	1.57	2.30	2.22	2.00	2.63
Uzbek SSR	3.09	2.32	3.58	4.86	3.55	5.68
Kazakh SSR	2.44	1.87	3.05	3.20	2.46	4.00
Georgian SSR	2.10	1.79	2.37	2.77	2.43	3.07
Azerbaijan SSR	3.11	2.43	4.03	4.23	3.38	5.39
Lithuanian SSR	1.75	1.56	2.13	2.17	2.01	2.53
Moldavian SSR	1.91	1.45	2.31	2.41	1.94	2.81
Latvian SSR	1.61	1.35	2.05	2.03	1.84	2.37
Kirghiz SSR	2.91	2.01	3.61	3.94	2.65	4.91
Tajik SSR	3.16	2.46	3.72	5.32	3.88	6.49
Armenian SSR	2.65	2.20	3.30	3.50	3.02	4.17
Turkmen SSR	3.16	2.59	3.83	5.11	4.02	6.38
Estonian SSR	1.75	1.53	2.07	2.18	1.97	2.50

A substantial birthrate differentiation continued to persist also in the RSFSR, a republic with a lower than average birthrate level. The higher birthrate levels are in the East Siberian, North Caucasian, and Povolzh'e economic regions, including their autonomous republics whose basic nationalities have a higher birthrate than the Russian population. The birthrate level also differed on the remaining territories, although not so significantly: it was somewhat higher in the eastern and northeastern oblasts of the RSFSR, and lower in the republic's western and northwestern oblasts.

The territorial differentiation of the indicators for the average number of born and expected children are more substantial in rural areas; the urban population is characterized by a greater homogeneity of reproductive behavior. Thus, the indicator for the average number of children born ranged in urban settlements from 2.59 in the Turkmen SSR to 1.29 in the Central Region of the RSFSR, while in rural areas it ranged from 4.03 in the Azerbaijan SSR to 1.81 in the Central Region of the RSFSR. The indicator for the average number of expected children ranged in urban settlements from 4.02 in the Turkmen SSR to 1.65 in the Central Economic Region of the RSFSR, and in rural areas—from 6.49 in the Tajik SSR to 2.12 in the Central Region of the RSFSR.

A comparison of the distribution of women by the number of children to which they intend to limit their families shows that the shift from a high and unrestricted birthrate to a low and consciously regulated one is occurring at different times in the different territories of our country. The populations of the union republics are at various stages of this process. In the republics with a low birthrate level in which the shift has basically been completed (RSFSR, Ukrainian SSR, Belorussian SSR, Lithuanian SSR, Latvian SSR,

Estonian SSR) the most preferred family is one with two children (from 51.7 to 59.6 percent of the married women in these republics expected two children in their families). In these republics 70-80 percent of the married women intend to limit their families to one to two children. In the republics with the highest birthrate levels in which the shift has only just begun (Uzbek SSR, Tajik SSR, Turkmen SSR) there was no vividly expressed mode of distribution for women on the basis of their expected number of children. More than one-half of the married women in these republics intended to have five children or more. In addition, it should be noted that in all republics the proportion of women who for various reasons did not expect any children in their families was small and ranged from 0.7 to 3 percent.

The distribution of women according to the number of children they expect in such republics as the Moldavian SSR, the Georgian SSR, the Armenian SSR, and the Azerbaijanian SSR reflects the different degrees of the shifts in these republics from a high birthrate to a low one. The Moldavian SSR is close to the republics with a low birthrate level, although the proportion of women intending to have more than two children is somewhat higher in it. In the Georgian SSR families with one to two or three to four children prove to be equally preferable: 46 percent of the women intended to have one to two children and the same amount intended to have three to four children, while very few intended to have five and more. The shift to small families began relatively recently in Armenia and Azerbaijan, and there are still many women in these republics (20.2 and 36.5 percent, respectively) who prefer large families, but most of them intend to have families with three to four children (52.2 and 37.8 percent, respectively).

The distribution of women according to the number of expected children in Kazakhstan and Kirghiziya where the indigenous population makes up a substantial proportion is uneven. In essence, there are two distributions here: one reflects an aspiration for a two-child family, and the other for a family with five children or more. This distinctive feature is in complete correspondence with the national composition of the population which has taken shape in these republics and which contains nationalities with different reproduction orientations.

In order to avoid the influence of the population's age and marriage structures on the birthrate indicators, birthrate tendencies should be examined on the basis of a comparison of the indicators of the reproduction behavior and reproduction intentions of women of a series of marriage cohorts; that is, the totality of women who entered their first marriage at the same time and who have lived in it up to the moment of the survey. For the analysis use was made of birthrate data with women who became married after the Great Patriotic War (Table 2).

Table 2

Birthrate Dynamics for Marriage Cohorts of Women  
in the USSR, Union Republics, and Economic Regions of the RSFSR

Territories	Expected Number of Children Amongst Women Who Entered Into Their First Marriage in						
	1945- 1949	1950- 1954	1955- 1959	1960- 1964	1965- 1969	1970- 1974	1975- 1978
USSR	2.82	2.64	2.63	2.41	2.35	2.22	2.15
RSFSR	2.65	2.35	2.20	2.03	1.92	1.85	1.79
Economic Regions:							
Northwest	2.37	2.09	1.92	1.78	1.72	1.68	1.65
Central	2.21	1.91	1.78	1.68	1.65	1.62	1.61
Volgo-Vyatskiy	3.01	2.50	2.24	2.05	1.99	1.85	1.78
Central Black Earth	2.72	2.32	2.26	2.01	1.83	1.82	1.71
Povolzh'e	2.85	2.49	2.46	2.22	2.02	1.95	1.80
North Caucasian	2.61	2.49	2.44	2.30	2.21	2.08	1.97
Urals	2.83	2.56	2.31	2.13	1.95	1.91	1.80
West Siberian	2.89	2.58	2.34	2.10	2.01	1.91	1.85
East Siberian	3.07	2.85	2.61	2.32	2.24	2.14	2.20
Far Eastern	2.88	2.67	2.36	2.18	1.99	1.91	1.89
Ukrainian SSR	2.22	2.04	2.07	2.01	1.96	1.89	1.85
Belorussian SSR	2.65	2.43	2.41	2.29	2.13	1.93	1.93
Uzbek SSR	4.50	5.00	5.45	5.17	4.96	4.37	3.86
Kazakh SSR	3.68	3.68	3.67	3.38	3.02	2.72	2.60
Georgian SSR	2.69	2.64	2.79	2.77	2.63	2.59	2.57
Azerbaijan SSR	4.65	4.69	4.83	4.36	4.28	3.56	3.11
Lithuanian SSR	2.41	2.42	2.19	2.14	2.01	2.02	2.00
Moldavian SSR	3.13	2.78	2.76	2.47	2.42	2.23	2.02
Latvian SSR	2.08	1.89	1.97	2.02	1.91	1.84	1.83
Kirghiz SSR	3.98	4.34	4.65	4.14	3.90	3.27	3.14
Tajik SSR	5.11	5.27	5.87	5.42	5.69	4.87	4.63
Armenian SSR	4.24	3.96	3.89	3.72	3.47	2.97	2.89
Turkmen SSR	4.85	5.03	5.66	5.27	5.16	4.63	4.27
Estonian SSR	2.17	2.04	2.03	2.07	2.16	2.12	2.02

The data of the survey has shown that the differences in the birthrate levels in the union republics are substantially the result of differences in its level among the various ethnic groups. The historical socio-cultural characteristics of ethnic groups have resulted in an uneven shift in time to a low birthrate and, thereby, in a birthrate differentiation at any given moment of time (Table 3).

Table 3

Birthrate Dynamics of Marriage Cohorts of Women of the  
Basic Nationalities of the Union Republics

	Average Number of Expected Children with Women Who Entered Their First Marriage in						
	1945- 1949	1950- 1954	1955- 1959	1960- 1964	1965- 1969	1970- 1974	1975- 1978
RSFSR	2.47	2.19	2.06	1.92	1.85	1.82	1.76
Ukrainian SSR	2.33	2.12	2.13	2.08	2.02	1.92	1.90
Belorussian SSR	2.69	2.42	2.37	2.31	2.09	1.93	1.93
Uzbek SSR	5.26	5.76	6.26	6.15	5.80	4.91	4.40
Kazakh SSR	5.27	5.46	5.93	5.54	4.62	3.91	3.50
Georgian SSR	2.69	2.65	2.77	2.77	2.67	2.62	2.59
Azerbaijan SSR	5.34	5.37	5.44	4.89	4.72	3.88	3.22
Lithuanian SSR	2.35	2.49	2.22	2.15	2.01	2.05	2.00
Moldavian SSR	3.63	3.04	3.15	2.63	2.57	2.34	2.06
Latvian SSR	2.19	1.91	2.04	2.12	1.95	1.94	1.93
Kirghiz SSR	5.37	6.15	6.52	5.78	5.46	4.59	4.54
Tajik SSR	5.89	6.35	6.93	7.03	6.48	5.64	5.01
Armenian SSR	4.01	3.56	3.55	3.46	3.25	2.79	2.71
Turkmen SSR	5.37	5.78	6.70	6.62	6.16	5.58	4.93
Estonian SSR	2.16	2.06	2.12	2.13	2.19	2.18	2.20

With regard to the character of reproduction behavior, basically two groups of nationalities which are at various stages of the development of the birthrate process continued to stand out. The first group included the nationalities with which the shift to a regulated birthrate on a low level has already been almost concluded—these are the basic nationalities of such republics as the RSFSR, the Ukrainian SSR, Belorussian SSR, Latvian SSR, Lithuanian SSR, Estonian SSR, and Moldavian SSR. Among the individual nationalities of this group an appreciable decrease in the birthrate continues only among the Moldavians who had its highest level in all of the postwar cohorts.

On the whole, within the group of nationalities with a low birthrate level the tendency toward a decrease in it was maintained in a clear form only in those social groups in which the birthrate level had been relatively higher (for example, among rural inhabitants, women with a lower than average educational level).

The second group consists of nationalities whose birthrate level continued on the whole to remain high, but in whose young cohorts there appeared signs of a decrease in it. This group includes Uzbek, Tajik, Kirghiz, Turkmen, Kazakh, and Azerbaijanian women. The most rapid rates of birthrate decrease were among the young cohorts of Azerbaijanian and Kazakh women. The repro-

duction behavior of the basic nationalities of the republics of Central Asia has been changing more slowly.

A general regularity of birthrate differentiation by types of settlements consists in the fact that in the USSR as a whole and in all of the territories which were examined the birthrate in rural areas was and continues to be higher than in the city. The high birthrate indicators in rural areas are more substantial in those territories where the birthrate level is high and the shift to a low one is in the initial stage (the Central Asian republics, the Kazakh SSR, the Azerbaijanian SSR). But even in those regions where the shift to a regulated birthrate may be regarded as concluded differences in the birthrate level between the urban and the rural population continued to persist (Table 1).

Table 4 cites data on the birthrate of women's marriage cohorts in relation to type of settlement and the size of an urban settlement by the number of its inhabitants.

Table 4

Birthrate Differentiation Depending Upon the Type of Settlement  
and Size of Urban Settlement

Years of Entry into First Marriage	Average Number of Expected Children Among Women in Their First Marriage								
	Among All Women	Among Women Living							
		In Urban Settle- ments	In Mos- cow	In Lenin- grad	In Urban Settlements with the Following Num- ber of Inhabitants, Thousands of People				In Rural Areas
					500 or more	100- 500	20- 100	Less Than 20	
1945-1949	2.82	2.38	1.56	1.58	2.02	2.37	2.55	2.74	3.41
1950-1954	2.64	2.17	1.52	1.52	1.83	2.17	2.30	2.50	3.42
1955-1959	2.63	2.09	1.44	1.36	1.75	2.07	2.18	2.46	3.43
1960-1964	2.41	1.97	1.46	1.37	1.73	1.97	2.03	2.26	3.20
1965-1969	2.35	1.96	1.46	1.36	1.70	1.96	2.03	2.27	3.15
1970-1974	2.22	1.93	1.49	1.43	1.72	1.92	1.99	2.18	2.86
1975-1978	2.15	1.92	1.50	1.45	1.74	1.92	1.96	2.19	2.72

While the birthrate level in small and medium cities continued to decrease, during recent decades the indicators for large cities did not reflect any clearly expressed tendency toward change; there is an especially clear stability in the birthrate level in Moscow and Leningrad (Table 4) where a decrease in it ceased in the cohorts as early as the 1950s and where negligible fluctuations should not be evaluated as a change in the birthrate.

The influence of the big city—the center of a country's political, economic, and cultural life—has always spread to surrounding smaller urban settlements and rural areas. For this reason, the indicators which had been obtained for the USSR's largest cities (Moscow and Leningrad) may be regarded as a model for the reproduction behavior of the inhabitants of other cities. However, it should not be thought that the birthrate level of the entire population in the future will be the same as the one which has formed in our largest cities. Differences in the way of life of families living in settlements of various types and sizes will be preserved, and this will have an effect upon the birthrate level.

The materials of the survey make it possible to study birthrate differences depending upon the educational level of women at the time of the survey. As is known, women with a higher educational level have a lower birthrate. This is characteristic both for the urban and for the rural population (Table 5).

Table 5

Birthrate Differentiation Depending Upon the Educational  
Level of Women in Various Types of Settlements

Average Expected Number of Children Among Women Aged 18-44 Who are in Their First Marriage						
Type of Settlement	All Women	Women Who Had the Following Education at the Time of the Survey				
		Higher and In- completed Higher	Secondary Special- ized	General Secondary	Incom- pleted Secondary	Elemen- tary and Lower
Total	2.44	1.98	2.04	2.48	2.66	3.26
Urban Set- tlements	2.04	1.84	1.90	2.07	2.17	2.54
Urban Ser- tlements with the Following Number of Inhabitants:						
Up to 100,000	2.21	2.03	2.01	2.22	2.33	2.65
100,000 and more	1.91	1.76	1.81	1.94	2.00	2.37
Rural Areas	3.24	2.62	2.47	3.41	3.34	3.76

Birthrate differentiation based on educational level and birthrate dynamics have their own special characteristics in population groups which are at various stages of lowering the birthrate. Thus, for example, in the group of

nationalities with a low birthrate level (Russian, Ukrainian, Belorussian, Latvian, Lithuanian, Moldavian, and Estonian women) the birthrate indicator for women with a higher, incomplete higher, and secondary specialized education were the lowest and practically did not change; in the group of nationalities with a high birthrate (Uzbek, Tajik, Turkmen, Kirghiz, Kazakh, Azerbaijan women) a decrease in the birthrate was at its greatest among women with this educational level (Table 6).

Table 6

Birthrate Differentiation in Marriage Cohorts by Educational Level  
Among Women of the Basic Nationalities in Groups of the  
Union Republics with High and Low Birthrate Levels

Years of Entry into First Marriage	Average Number of Expected Children Among Women in Their First Marriage					
	All Women	Women With an Education at the Time of the Survey				
		Higher and Incompleted Higher	Secondary Special- ized	General Secondary	Incom- pleted Secondary	Elemen- tary and Lower
		Total				
1945-1949	2.82	1.98	2.15	2.45	2.77	3.23
1950-1954	2.64	1.90	2.03	2.42	2.62	3.01
1955-1959	2.63	1.89	2.01	2.74	2.70	3.01
1960-1964	2.41	1.90	2.00	2.48	2.63	2.78
1965-1969	2.35	1.95	2.03	2.57	2.57	2.57
1970-1974	2.22	1.97	2.01	2.42	2.38	2.19
1975-1978	2.15	1.97	2.02	2.29	2.22	1.84
		Basic Nationalities of the Union Republics With a Low Birthrate Level*				
1945-1949	2.46	1.85	2.01	2.08	2.41	2.80
1950-1954	2.19	1.78	1.91	1.89	2.14	2.47
1955-1959	2.10	1.75	1.88	2.00	2.15	2.35
1960-1964	1.99	1.74	1.87	1.94	2.12	2.17
1965-1969	1.92	1.74	1.86	1.96	2.09	1.81
1970-1974	1.86	1.75	1.84	1.88	2.00	1.50
1975-1978	1.81	1.76	1.84	1.84	1.81	1.13

(continued next page)

Average Number of Expected Children Among  
Women in Their First Marriage

Years of Entry into First Marriage	All Women	Women With an Education at the Time of the Survey				
		Higher and Incomplete Higher	Secondary Special- ized	General Secondary	Incom- pleted Secondary	Elemen- tary and Lower
Basic Nationalities of the Union Republics With a High Birthrate Level**						
1945-1949	5.34	4.64	5.12	5.28	5.59	5.27
1950-1954	5.72	4.10	5.01	5.75	6.06	5.63
1955-1959	6.15	4.13	5.16	6.29	6.52	6.06
1960-1964	5.91	4.26	4.71	6.07	6.45	5.74
1965-1969	5.47	4.02	4.56	5.79	5.81	5.85
1970-1974	4.69	3.90	4.12	4.92	4.98	4.82
1975-1978	4.16	3.58	3.80	4.29	4.41	4.27

\*Russian, Ukrainian, Belorussian, Moldavian, Latvian, Lithuanian, and Estonian women.

\*\*Uzbek, Kazakh, Kirghiz, Tajik, Turkmen, and Azerbaijanian women.

In the group of nationalities with a low birthrate a stably low birthrate level had long ago become established with women with a high level of education. The stabilization ensued with the birthrate level indicator of 1.7-1.8 children on the average per woman who had concluded giving birth to children. Among women with a general secondary education the birthrate level is gradually becoming the same as among women with a secondary specialized education. In the group of women with an incomplete secondary education the birthrate level continued to persist in the postwar cohorts at 2.4-2.2 on the average per woman; it decreased only in the youngest marriage cohorts.

Young married cohorts with an elementary educational level fall somewhat out of the general tendency for the birthrate indicator. With them the indicators for the average number of expected children were substantially lower than with all other cohorts. Many of the women with only an elementary education entered into marriage late and a substantial number of them did not intend to have any children at all (32.8 percent), which, like the low educational level, may be explained by the condition of their health.

In nationalities with a high birthrate level there is also a differentiation for educational level: the higher the educational level, the lower the birthrate. In addition, in marriage cohorts of the 1950s and 1960s there was an increase in the birthrate which was most clearly expressed with women with a secondary general and an incomplete secondary education. Beginning with marriage cohorts which took form in the middle 1960s this increase halted and a decrease began.

In most of the groups we have distinguished the indicators for the average number of born and expected children were lower with women of the younger cohorts. However, there exist groups of the population in which, beginning with marriage cohorts of the 1960s, the birthrate level is stable—these are groups of women with a higher and secondary specialized education who have been living in large and in the largest cities.

Data is obtained from the survey which makes it possible to judge family formation rates (Table 7). By comparing in the various marriage cohorts the average expected number of children with the average number of children born during one or another period of the marriage it is possible to determine how rapidly the formation of a family is moving and coming to an end in various cohorts. From Table 7 it can be seen that the average number of children born during one or another period of marriage underwent little change from cohort to cohort, something which cannot be said about these indicators when they are calculated separately for groups of republics with high and low birthrate levels.

Table 7

Family Formation Rates with Women of the Basic Nationalities  
in the Groups of Union Republics with High and Low Birthrate Levels

Years of Entry into the First Marriage	Average Number of Children Born in Relation to the Length of Marriage, Years						Average Num- ber of Children Born at the Time of Survey	Average Number of Expected Children
	1	3	5	10	15	20		
			Total Women					
1945-1949	0.09	0.83	1.24	2.05	2.51	2.72	2.82	2.82
1950-1954	0.10	0.85	1.25	2.00	2.38	2.54	2.63	2.64
1955-1959	0.12	0.94	1.34	2.02	2.35	—	2.55	2.63
1960-1964	0.13	0.92	1.26	1.88	—	—	2.24	2.41
1965-1969	0.15	0.93	1.26	—	—	—	1.98	2.35
1970-1974	0.13	0.94	—	—	—	—	1.48	2.22
1975-1978	0.09	—	—	—	—	—	0.67	2.15

(continued next page)

Years of Entry into the First Marriage	Average Number of Children Born in Relation to the Length of Marriage, Years						Average Number of Children Born at the Time of Survey	Average Number of Expected Children
	1	3	5	10	15	20		
Basic Nationalities of the Union Republics With a Low Birthrate Level								
1945-1949	0.10	0.86	1.26	2.00	2.33	2.42	2.46	2.46
1950-1954	0.11	0.87	1.24	1.86	2.09	2.15	2.19	2.19
1955-1959	0.12	0.93	1.27	1.79	1.99	—	2.07	2.10
1960-1964	0.13	0.90	1.17	1.68	—	—	1.91	1.99
1965-1969	0.14	0.90	1.16	—	—	—	1.71	1.92
1970-1974	0.13	0.91	—	—	—	—	1.34	1.86
1975-1978	0.10	—	—	—	—	—	0.656	1.81
Basic Nationalities of the Union Republics With a High Birthrate Level								
1945-1949	0.03	0.53	0.90	2.08	3.43	4.62	5.33	5.34
1950-1954	0.06	0.64	1.11	2.57	4.05	5.07	5.61	5.72
1955-1959	0.11	0.92	1.57	3.23	4.59	—	5.66	6.15
1960-1964	0.18	1.05	1.77	3.34	—	—	4.90	5.91
1965-1969	0.17	1.10	1.84	—	—	—	3.82	5.47
1970-1974	0.10	1.06	—	—	—	—	2.31	4.69
1975-1978	0.07	—	—	—	—	—	0.74	4.16

In the group of republics with a low birthrate level the indicator of the average number of children born by the fifth year of marriage changed insignificantly, to wit: from cohort to cohort there was a certain decrease in it (from 1.26 average births per woman in the 1945-1949 marriage cohort to 1.16 in the 1965-1969 marriage cohort).

In the group of republics with a high birthrate level there was an opposite tendency: the women of the basic nationalities who had entered into marriage during the years 1965-1969 had given birth to twice as many children by the fifth year of their marriage as those who had entered into marriage during the years 1945-1949. The increase in the number of births during the first years of marriage in the young marriage cohorts is explained by improvement in living conditions and medical care and, this means, an improvement of the health of women.

Thus, while there is a general tendency toward a decrease in the birthrate an ever greater proportion of the births is concentrated in the first years of marriage.

There is a widespread opinion that with regulated birthrate the age when one enters into marriage has lost its paramount importance. Even a woman who has

entered into marriage at 30 or older can manage to give birth to one or two or even three children before the end of her reproductive period. Theoretically this is true, and, probably, this kind of possibility does exist for individual women; however, for the total group of women who have entered into marriage, for example, at 30 years of age and older their average number of children is substantially less than with women who have entered into marriage at younger ages (Table 8).

Table 8

Influence of the Age When a Woman Enters into Marriage  
on the Expected Number of Children

Years of Entry into First Marriage	Average Number of Expected Children				
	All Women	Women Who Have Entered into Marriage at the Age of			
		Up to 21	21-24	25-29	30 and older
All Women					
1945-1949	2.82	3.18	2.69	2.44	1.95
1950-1954	2.64	3.26	2.54	2.23	1.95
1955-1959	2.63	3.15	2.50	2.24	1.83
1960-1964	2.41	2.97	2.31	2.11	1.51
1965-1969	2.35	2.73	2.23	2.02	1.37
1970-1974	2.22	2.46	2.12	1.94	1.22
1975-1978	2.15	2.30	2.12	1.96	1.12

Basic Nationalities of the Union Republics  
with a Low Birthrate Level

1945-1949	2.46	2.61	2.44	2.23	1.50
1950-1954	2.19	2.41	2.22	2.00	1.68
1955-1959	2.10	2.33	2.12	1.91	1.55
1960-1964	1.99	2.22	2.02	1.86	1.29
1965-1969	1.92	2.08	1.97	1.78	1.21
1970-1974	1.86	1.95	1.88	1.75	1.06
1975-1978	1.81	1.89	1.81	1.72	0.98

Basic Nationalities in the Union Republics  
with a High Birthrate Level

1945-1949	5.34	5.67	5.10	4.34	—*
1950-1954	5.72	6.31	5.49	4.58	—
1955-1959	6.15	6.87	5.91	4.83	—
1960-1964	5.91	6.49	5.63	4.96	—
1965-1969	5.47	5.85	4.89	4.75	—
1970-1974	4.69	4.97	4.28	3.75	—
1975-1978	4.16	4.35	4.01	3.59	—

\*The sign "-" means that there are less than 20 women in a given group and, for this reason, indicators were not calculated for these groups.

The materials of the survey have shown that even with widespread small numbers of children in the family the age of women upon entering into marriage remains a strong differentiating factor: the younger the age, the higher the birthrate. For example, for women who entered into marriage during the years 1945-1949 at the age of 21 or younger the average number of children indicator was 3.18, while for those who became married at 30 or older it was 1.95. Even those women who became married at age 21-24 intended on the whole to have fewer children than women who became married at 21 or younger. Consequently, a change in the marriage age has an influence on the birthrate level.

In connection with the fact that early marriages are more characteristic for population groups with a high birthrate level, differentiation by marriage age is partially connected with the ethnic structure of the marriage cohort. A decrease in the birthrate occurs independently of marriage age, and an inverse relationship between birthrate level and marriage age shows great stability and persists in all marriage cohorts.

A study of the influence of the marriage age of the husband on the expected number of children also revealed an inverse relationship for these parameters, although in a much more weakly expressed form.

Thus, the results of the survey bear witness to the fact that there continues to be a substantial territorial birthrate differentiation connected with the diverse reproduction behaviors of families and with different orientations regarding the number of children in a family. Ethnic differentiation is more important than differences connected with the other socio-cultural factors such as educational level and type and size of settlement, and the latter can be correctly interpreted only within the framework of homogeneous ethnic groups. The survey showed that the differentiation of birthrates for all socio-cultural characteristics is a consequence of the different times of the shift from a high to a low birthrate in the different groups of the population. This shift occupies a long period of time and is occurring at different rates of speed in the groups with the result that certain groups of the population (the inhabitants of the large cities of the European part of the country) already have a stable low birthrate level, while in other groups (rural inhabitants of the European part of the country and others) the decrease continues and their birthrate level is average, in yet third groups the decrease in the birthrate has only recently begun (Armenia, Kazakhstan, Azerbaijan), while in fourth groups it has only just begun (the rural areas of Central Asia) and the birthrate level is still high there. A decrease in the birthrate begins in urban areas earlier than in rural ones, in large cities earlier than in small ones, and among people with more education earlier than among those with less education.

The birthrate indicators of actual marriage cohorts show that after a decrease in the birthrate there is a tendency toward stabilization on a low level. In addition, the differences in birthrates in the different socio-cultural groups of the population do not disappear, but become small and lose their significance.

Birthrate dynamics in the country is a very important demographic process which is of great social and cultural importance for society. Its development must be carefully watched. The regular performance of one-time surveys provides valuable material which is necessary for a demographic forecast and for working out demographic policy and evaluating its effectiveness.

#### FOOTNOTES

1. These surveys were carried out within the framework of one-time sample surveys of the families of workers, employees, and kolkhoz workers which were conducted by the Division of Budget Statistics of the USSR Central Statistical Administration in 1967, 1972, 1975, 1978 and 1981. The program for observing and working up the "Birthrate" section was performed by the Division of Demography of the Scientific Research Institute of the USSR Central Statistical Administration. The materials of the 1981 survey are in the analysis stage.
2. In contrast to the usual indicators which are obtained from the data of the current registration of births, these indicators characterize the birthrate not in a given calendar year, but in actual cohorts; that is, among women who were born or who entered into marriage in specific years.

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2959

CSO: 1828/56

GENERAL

CONTROL OVER FINANCIAL OPERATIONS OF SOCIO-CULTURAL INSTITUTIONS DETAILED

Moscow FINANSY SSSR in Russian No 11, Nov 83 pp 31-34

[Article by V.G. Ivanova, chief of the Culture and Health Financing Administration, USSR Ministry of Finance: "Control of the Financial Activities of Socio-Cultural Institutions", under the heading: "The Social Program of the Five Year Plan"]

[Text] Concern for the well-being of Soviet man was and remains the general line of our party. "Actually, no matter how complex the tasks facing the Soviet economy, in the end they all merge into one--to guarantee the growth of the workers' welfare, and to create the material conditions for further flourishing of their spiritual and cultural life and social activeness", stressed Yu.V. Andropov in his article, "Ucheniye Karla Marksa i nekotorye voprosy sotsialisticheskogo stroitel'stva v SSSR" [The Teachings of Karl Marx and Certain Questions of Socialist Construction in the USSR]. A convincing confirmation of this is that in the 11th Five Year Plan a higher portion of the national income than before now goes to meet the needs of the people.

As a result of putting into practice the decisions of the 26th CPSU Congress, and the widespread socialist competition for properly greeting the 60th anniversary of the formation of the USSR, in 1982 the economic might of the state was strengthened further, and the people's standard of living was raised. Average monthly wages of workers and employees in the national economy amounted to 181 rubles, as opposed to 177 rubles in the first half of 1982. Wages for kolkhoz members was increased by 7 per cent. And the populace has received a sum of over 64 billion rubles in payments and benefits from the social consumption fund, which is 2.6 billion rubles greater than for the corresponding period of last year. Taking these payments and benefits into consideration, the wages of the workers and employees have reached 249 rubles per month. The state has provided funds for building living quarters with a total area of 28.4 million square meters; general educational schools with a capacity of 105,000 students; pre-school institutions with space for 127,000 children; hospitals with a capacity of 13,000 beds; and walk-in polyclinics with a capacity of 27,000 visits per shift. Many other projects of a socio-cultural nature have been put into operation.

The appropriations in the state budget allocated for maintaining the existing system and developing new educational and health-care institutions are growing year by year. In the 10th Five Year Plan and in the three years of the 11th they have grown from 38.1 billion rubles to 50.4 billion, or by 33.3 per cent; moreover, not only has the system of institutions and the personnel staff expanded, the service has improved as well: the wages and salaries of the workers have grown, as have the norms for purchasing food, medicines, minor furnishings etc. An impression of this is provided in the following table:

Indicators	1975	1983	Growth of	
	Report	Plan	Expenditures Rubles	%
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Average Cost of Maintenance at Expense of Budgeted Funds, Per Year, in Rubles:				
Per Child, in Childrens' Preschool Institutions. . . . .	.359	403	44	12.2
Per Student in General Educational Schools . . . . .	.166	201	35	21.1
Per Pupil in Boarding Schools . . . . .	.828	1,085	257	31.0
Per Student in Secondary Special Educational Institutions . . . . .	.622	731	109	17.5
Per Student in Vocational-Technical Schools . . . . .	.620	700	80	12.9
Per VUZ Student . . . . .	.983	1,112	129	13.1
Per Hospital Bed . . . . .	2,745	3,407	662	24.1
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Successful completion of the tasks facing the financial system in the light of the decisions of the 26th CPSU Congress and the November (1982) and June (1983) CPSU Central Committee Plenums is inseparably associated with the perfection of all forms of ideological and ideological-educational work, which is inseparably associated with economic and organizational activities. Proceeding from this, we are directing the efforts of the management collective toward continuous improvement in economic activities and in monitoring the work; toward more profound study of the financial and economic activities of the institutions of education, health-care and culture; and toward preparing on this basis proposals for more effective utilization of existing reserves.

In order to forestall irrational use of state funds and to render assistance to local financial organs as well as to institutions, systematic work is in progress for the purpose of improving the existing situation and for issuing new methodological instructions on planning the expenditures to maintain institutions of education, health-care and culture. Methodological instructions are being prepared for a publication on a system for carrying out analysis of balances and accounts; for making estimates of expenditures at educational and health-care institutions; and on a system for planning resources allocated for raising the skills of the supervisory workers and specialists in the branches of the national economy. It is planned to publish methodological instructions for planning expenditures for maintaining schools for advanced sporting skills and for extracurricular institutions. Work is being carried out on improving and codifying financial legislation and normative acts. Thus, the administration has prepared three volumes (in four books) of an anthology, "The Financial System of the USSR" on financing health-care, education and culture; on training the cadres, and on science (two books).

Without a doubt the biannual conferences with supervisory personnel of the administrations for financing culture and health care at the union republic ministries of finance are for the good of the cause, as is the training received at the department for higher qualification at the VZFEI [All-Union Correspondence Institute of Finance and Economics].

Normalization of expenditures has an important place in our work. Certain norms are obsolete and require reevaluation. One must ensure that the norms and constantly improved and strictly observed; and for this, it is necessary first of all to increase the effectiveness of preliminary and current financial control.

Monitoring the correctness of compiling and approving estimated expenditures from the budgeting institutions must be at the center of attention of the financial organs. Preliminary control plays a special role here--determining expenditures as the union republic draft budgets are being drawn up; as checks are made for correct compilation of financial plans and estimated expenditures by the budgeting institutions, and for timely submission to the enterprises, organizations and institutions. This is especially important in cases where inspections and checks disclose surplus appropriations for estimates in significant amounts.

Of great significance for intensifying control over the correctness of expenditure of state funds are the inspections which are envisaged by the plan on basic questions of the economic and control operations of the USSR Ministry of Finance. Materials which summarize the inspections by the financial authorities, and suggestions for improving the financial and economic activities of the institutions, and more rational utilization of resources are, as a rule, sent to the government as well as to the ministries and departments so that they make take measures. In 1982 alone, 22 resourceful suggestions were sent to the Council of Ministers on the basis of materials from the inspection.

Special attention is devoted to control over executing expenditures in the process of current financing of the socio-cultural institutions of ministries and departments. Thus, financing expenditures of these institutions to the extent that they fulfill the plan for the system, the staff and the group while observing the established norms, permits saving significant sums in the union budget. An economic effect in the expenditure of funds in the union budget is also achieved by virtue of changes in the periodicity of opening credits (three times a quarter vice two) and in reckoning the underutilized resources by 1 October.

The administration is carrying out a great deal of work on analysis of the financial and economic activities of the institutions, enterprises and organizations of the ministries and departments, and execution of the budgets of the union republics on expenditures for socio-cultural measures. As a result, each year additional resources for the budget are disclosed: on the basis of the accounts for 1982, they amounted to over 90 million rubles.

Expenditures for the workers' wages at the health-care and educational institutions accounts for more than half the expenses for maintaining them. Therefore, the financial organs must devote special attention to its planning, summation and disbursement; must analyze the correctness of the compilation and approval of estimated expenditures, of the wage-rate listings for instructors and medical workers, of the staff rosters of administrative-economic, training and auxiliary, and service personnel. As the results of investigations have shown, in many institutions they permit overstaffing, they overstate the salaries and wage rates, and also make disbursements for non-working time when a person holds two positions. There are also other violations.

A great many cases have been disclosed of overstating the appropriations for wages when approving the estimated expenditures of budget organizations. Thus, in the educational institutions of 26 autonomous republics, krais and oblasts of the RSFSR which were checked, as well as the Turkmen and Lithuanian SSR, appropriations for estimates for 1983 were overstated by 548,000 rubles; in the health-care institutions of the RSFSR, the Ukrainian, Uzbek, Azerbaijan, Tajik and Estonian SSR, by 1,680,000 rubles.

In certain health-care institutions, positions were approved on the personnel rosters for which no wages were funded, and in certain school and preschool institutions, the personnel rosters for administrative and service personnel and auxiliary educational personnel envisaged maintaining positions higher than standard staffing permits.

Instances of incorrect disbursement of wages in a number of cases were caused by carelessly conducting personnel affairs in the labor books, and by mistakes made when compiling the wage rate lists for the workers. In the educational and health-care institutions which were checked, because of incorrectly computing the workers' wage rate, there were overpayments in 1,752 cases by 168,500 rubles, and underpayment of 879 workers by 44,400 rubles.

Incorrectly determining the length of service of pedagogical and medical workers, the amounts of hourly-wages in schools for universal-education, and establishing supplementary payments and salary increases for medical workers have led to excessive expenditures. In the health-care institutions of the Dagestan and Yakutsk ASSR, the Maritime Kray and Rostov Oblast in the RSFSR, in Mary Oblast in the Turkmen SSR, and the Anikshchyay Rayon of the Lithuanian SSR, violations have been established in the system of jointly holding more than one position, in connection with which 336,200 rubles were disbursed illegally.

The financial organs must monitor the situation, to ensure that cases of placing an excessively heavy workload on teachers do not take place; nor incorrectly dividing classes into subgroups for foreign language and labor training classes; nor payment of wages for non-working time; nor awarding health-care workers bonuses for achieving the best results in the absence of savings to the wage fund, and non-fulfillment of basic plan indicators; nor awarding bonuses to the supervisors of institutions and their deputies, without the permission of higher health-care authorities.

Serious shortcomings were uncovered in 1982 during inspections of VUZ's, secondary special educational institutions, hospitals, scientific research institutions, institutions for higher qualification, organs of scientific and technical information, theatrical entertainment enterprises, and radio and TV centers.

In 305 secondary special educational institutions it was established that 1,261 persons were being maintained above authorized staff level, and wages were overpaid without justification for 192 workers. Wages in the amount of 1,900,000 rubles per year were paid illegally. In 42 higher educational institutions cases were uncovered of maintaining an excessive number of administrative-managerial and auxiliary educational personnel, as well as professorial-instructor personnel; in connection with this, the latter were improperly involved in performing administrative functions. There were also violations of existing laws on wages for certain categories of workers.

In a number of VUZ's they have illegally created (as compared to the structural control apparatus of ministries and departments) administrations, centers, and educational-methodical offices, although the existing legislation does not authorize payment of wages to their workers. Such violations take place because the numbers of personnel which are approved for the VUZ's by the ministries and departments are overstated, and the financial organs are unable to take control, inasmuch as the VUZ's are exempt from registration of their staff. In order to establish order, a decision was adopted and approved by the USSR Ministry of Higher Educational Institutions, in conjunction with the USSR Ministry of Finance, on standard staff organization for administrative-managerial and service personnel at the VUZ's.

A topic for special attention of the financial organs is control over the expenditure of budgeted appropriations allocated for scientific research projects. Inspections have disclosed underestimations in thematic planning,

in some cases topics of other institutions were duplicated, funds were wasted on minor, irrelevant topics, and periods for completing a project were extended when the project did not deserve prolonged effort. Research on certain topics is completed by writing reports and recommendations and compiling separate instructions. And proper control is not implemented for introducing the results of the work to production. Quite often the higher authorities commission scientific research institutions to carry out work that is not of a scientific nature--preparing surveys or compiling directories--which involves a significant number of specialists.

Significant shortcomings were disclosed in the work of the organs for scientific-technical information--there was unwarranted duplication of functions, results from the materials were at a low level, deadlines for preparation were not met, there were overages in expenditures for maintaining staff personnel, the wage fund for temporary personnel was improperly used, etc. Based on materials from the inspection, proposals were prepared and sent to the government which permit making decisions on reducing the number of workers at the subsidiary scientific-technical information sections at associations, enterprises, organizations and institutions, as well as organs of scientific and technical information, by not less than ten per cent on the average, as compared with the actual numbers in 1981.

Institutes for higher qualification of supervisory personnel and specialists in the national economy have also permitted violations in planning, staff and financial discipline, and irrational and illegal expenditure of funds, which led to higher costs for training the personnel.

Inspections of 59 radio and television centers have established cases of surplus staff personnel, inflated salaries, illegally holding more than one job, and violations in spending the wage funds for temporary personnel. As a result, more than 400,000 rubles were spent without justification. In many centers, there was equipment which had not been set up or was not working.

The examples cited testify to the laxity in intra-branch control, and that is the reason for the appearance of loopholes for nonproductive expenditures, of pilferage and waste. Workers at the financial organs must increase financial control over observing existing legislation on wages for workers at the institutions of education, health-care and culture; they must systematically check computation and disbursement of wages for accuracy; they must take concrete measures for eliminating the violations which were disclosed, to punish the guilty, and when circumstances dictate turn over materials to the people's control authorities so that those persons who were responsible for serious violations may be punished, and the funds recovered.

Materials from the inspection of 416 medical institutions indicate that the health-care organs and the supervisors of the institutions are not devoting the necessary attention to questions of correctness of planning and expenditure of funds allocated for obtaining medicines and bandages. The norms for these purposes are inflated, and the estimated indicators on which the requirements for allocations are based do not correspond to the system for accounting for medicines and bandaging materials, which includes those handed out free of charge to certain categories of ambulatory patients.

According to a survey of 5,240 educational and health-care institutions conducted by financial authorities in 1982, it was established that funds allocated for major remodeling of buildings and structures were not used for the purposes intended--they were used for building houses, roads, or garages, for making inflated payments for major remodeling projects. In a number of cases there was irrational expenditure of funds allocated for financing cultural institutions, or for producing movies and TV films. Significant shortcomings were disclosed upon inspection of schools for music, culture and the arts. A proposal was sent to the USSR Council of Ministers for gradually placing them on a self-supporting basis; competent authorities were commissioned to investigate this proposal.

Inspections conducted by managerial personnel in the current year also testify to irrational expenditure of state funds. Analysis of the activities of educational-methodological and methodological offices at the Ministry of Higher Educational Institutions, Ministry of Education, Ministry of Health, Ministry of Agriculture, at the Committee for Physical Culture and Sports, and other ministries and departments in the USSR and the union republics, have established obvious surpluses in both the system and on the staffs. Quite often these offices carry out functions which do not pertain to them, which have been assigned to appropriate ministries and departments. In order to establish order in the work of the methodological offices, the management has introduced proposals to the government, for approval by the appropriate ministries and departments of the USSR, to include coordination with the USSR Ministry of Finance, on nomenklatura and standard staff structure for educational-methodological offices.

Serious violations were disclosed upon inspection of expenditures from the wage fund for temporary (nonregistered) personnel at educational institutions, scientific-research and other institutions. One must take notice of the fact that over the last ten years expenditures from this fund at sociocultural institutions have increased by more than 40 per cent, while appropriations for current maintenance have increased by 20 per cent.

Violations are permitted in a great number of institutions: wage funds for temporary personnel are spent for work, the wages for which are provided in the wage fund for the permanent staff. Norms and wage rates for paying private individuals are inflated, and as a result they illegally receive huge sums. For example, in Astrakhan, a technical school for the fishing industry, of the USSR Ministry of the Fishing Industry, paid a private individual the sum of 2,080 rubles in 1982 for polishing floors; the Moscow imeni Sechenova Medical Institute paid a single individual 2,035 rubles over a two-month period for removing ice and snow from the roof; and the Leningrad Medical Institute of the USSR Ministry of Health paid 16 people a total of 5,690 rubles for similar work, without indicating the volume of work or the wage rate.

There have been numerous cases of using moneys from the wage fund for temporary personnel for work that is supposed to be performed by permanent staff personnel at an institution. At the Tashkent Institute for Rail Transport Engineers, Ministry of Railroads, three private individuals were paid 2,976 rubles in 1982 for conducting inspections, including 1,073 to one

person for two months work, and to two others for four months work, 1,187 and 716 rubles, respectively. The facts which have been cited testify to the laxity in control over proper expenditure of this fund on the part of the administrators of the institutions and organizations, as well as their higher authorities.

In order to forestall irrational use of moneys from the wage fund for temporary personnel, it has been proposed to reduce it by 15 per cent in 1984 for socio-cultural institutions.

Financial organs must take measures directed toward more effective use of funds allocated for maintaining socio-cultural institutions, for further improving financial planning, financing and normalization of expenditures, and for disclosing reserves within the organizations. In order to do this, it is necessary to make a more profound study of the economy of the branches being financed, and on this basis systematically develop proposals for improving the financial and economic activities of institutions, enterprises and organizations, and to strengthen the regime of economy in the expenditure of state funds.

Workers at the administration of the USSR Ministry of Finance should: render greater practical assistance to the financial organs of the union republics, ministries and departments in increasing the level of planning the expenses of socio-cultural institutions, and increasing control over the expenditure of these funds; take an active part in inspections of the institutions carried out by the Control and Auditing Administration of the ministry, as well as in the work of Gosplan USSR, the GKNT [State Committee for Science and Technology], Goskomtrud [USSR State Committee for Labor and Social Problems], USSR Ministry of Justice and the USSR Central Statistical Administration, on improving the training and increasing the qualification of the supervisory cadres in the national economy, bearing in mind in particular, the confirmation of standard staff structure at institutes for higher qualification; and to continuously increase the professional qualifications and personal responsibility for the assigned task.

The forms and methods of work must be changed promptly, so that all the activities of the financial organs will meet the high requirements brought forth at the 26th Party Congress and at the June (1983) CPSU Central Committee Plenum, and the tasks for communist construction.

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5 April 1984